

**REMARKS**

Claims 2-6, 8-18, 19-21, and 23-27 are pending in the Application.

The Specification has been amended to move the Brief Description of the Drawings from page 33 to page 10, as set forth above. No new matter has been added.

Claims 1, 7, 19, and 22 have been canceled, and Claims 23, 24, 25, 26, and 27 have been added. Support for the new claims may be found in Figures 2, 11, and 21 and in the Specification at pages 12-13 and 26-28.

Claims 2, 3, and 4 have been amended to depend from Claim 23 instead of Claim 1.

Claim 8 has been amended to depend from Claim 27 instead of Claim 7. To conform to the language of Claim 26, from which Claim 27 depends, the phrase “said mesh generation means” at lines 1-2 has been changed to “a mesh generation unit” (conforming to the usage of Figures 2 and 11) and the phrase “said predetermined mesh” at line 2 has been changed to “a predetermined mesh.”

Claim 9 has been amended to depend from Claim 3 instead of standing as an independent claim. To conform to the language of Claim 23 (from which Claim 3 depends), and reflecting the usage of Figures 2 and 11: the phrase “mesh generation means for generating” at line 4 has been changed to “said mesh generation unit generates”; the phrase “finite element analysis means for performing” at line 7 has been changed to “a finite element analysis unit performs”; and the phrase “said obtained mesh” at line 8 has been changed to “said mesh generated by said mesh generator.”

Claim 10 has been amended by changing “mesh generation means” at lines 1-2 to “mesh generation unit.” Support for such amendment may be found in Figures 2 and 11.

Claims 11, 13, and 14 have been amended to depend from Claim 24 instead of standing as independent claims.

Claim 12 has been amended to conform to the language of Claim 11, as amended, from which Claim 12 depends.

Claims 15, 16, 17, and 18, which depend from Claim 14, have been amended to more closely track the language of Claim 24, from which Claim 14 depends.

Claim 20 has been amended to depend from Claim 25 instead of Claim 19. As a result, changes to the language of Claim 20 have been made to bring Claim 20 into conformity with the language of Claim 25.

Claim 21 has been amended to depend from Claim 25 instead of standing as an independent claim. In addition, Claim 21 has been amended by changing the term “storage means” to “storage medium” at line 8 to conform to the language of Claim 25, which reflects the use of the term “storage medium” in the Specification at page 10.

#### The Claimed Invention

The claimed invention addresses a problem in the well-established technical art of computer aided design (CAD) and computer aided engineering (CAE) (*see* Specification at 1, Field of Invention), which have come to be used in connection with nearly every kind of product developed through the use of formal drawings — from automobiles and airplanes, to buildings, to printed circuit boards and integrated circuits. CAD or CAE applications include functions for automatically generating meshes for target shape models. (*See* Specification at 1) According to the prior art, to generate meshes having different characteristics for the same shape model, or to generate a mesh having a common characteristic for multiple similar shape models, the mesh generation operation using a shape model would have to be performed each time, including each time alterations to the drawing are made with the CAD or CAE application. (*See* Specification at 3-4) The claimed invention overcomes the problem of having to regenerate meshes every time alterations have been made in a formal drawing by enabling the automation of the process of modifying a mesh once it has been generated. (*See* Specification at 5)

The claimed invention thus provides a mesh generation system 10 for generating a mesh used for finite element analysis. According to the claimed invention, a mesh characteristic extraction unit 11 receives a conventional mesh and extracts a characteristic from the conventional mesh. A mesh characteristic change unit 12 changes the characteristic of the mesh extracted by the mesh characteristic extraction unit 11. A mesh

generator 13 generates a mesh for a target shape model in accordance with the characteristic extracted by the mesh characteristic extraction unit 11 or as changed by the mesh characteristic change unit 12. (See Figure 2) A tensor field extraction unit 21 may receive the conventional mesh from the mesh characteristic extraction unit 11 and employ a shape model to extrapolate a tensor field from the template mesh before the mesh is received by the mesh characteristic change unit 12 or the mesh generator 13. (See Figure 11)

Claims 7-10 and 21 have been rejected under 35 U.S.C. § 112, sixth paragraph, as inadequate means-plus-function claims, while Claims 1-22 have been rejected under 35 U.S.C. § 101 as directed to non-statutory subject matter.

Rejection of Claims 7-10 and 21 Under 35 U.S.C. § 112, Sixth Paragraph

Applicants traverse the rejection of Claims 7-10 and 21 under 35 U.S.C. § 112, sixth paragraph, on the basis that the means-plus-function limitations of those claims are appropriately disclosed and are supported in the Specification at, *inter alia*, pages 7-8, 10, and 12-13. The point is almost wholly moot, however, because Claim 7 has been canceled and dependent Claims 8-10 have been amended to conform to the language of new independent claims, which do not include means-plus-function language. The phrase “transmission means for reading said program from said storage medium” in Claim 21, lines 8-9, is the only use of means-plus-function language in the claims as currently amended. The claimed transmission means is supported in the Specification at page 10.

Rejection of Claims 1-22 Under 35 U.S.C. § 101

Applicants traverse the rejection of independent Claims 1-22 under 35 U.S.C. § 101 as directed towards nonstatutory subject matter, on the basis that the claims clearly require the application of computer technology. In addition, Claims 1, 7, 19, and 22 have been canceled and Claims 23, 24, 25, 26, and 27 have been added, while the remaining claims have been amended to depend, directly or indirectly, from the new claims. As amended, the claims of the claimed invention even more clearly relate to a well-established technical art and should be allowed.

Conclusion

In view of the foregoing, Applicant submits that Claims 2-6, 8-18, 19-21, and 23-27 are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue. The Examiner is invited to contact the undersigned at the telephone number listed below, if needed.

Applicant hereby makes a written conditional petition for extension of time, if required. Please charge any deficiencies in fees and credit any overpayment of fees to Applicants' Deposit Account No. 50-0510 (IBM Corporation).

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'M. E. Whitham', is written over the printed name.

Michael E. Whitham  
Registration No. 32,635

Whitham, Curtis & Christofferson, P.C.  
11491 Sunset Hills Road, Suite 340  
Reston, Virginia 20190  
Tel. (703) 787-9400  
Fax. (703) 787-7557